المدرسة الإماراتية

مدرسة السلمة للحلقة الثانية والتعليم الثانوي بنات

AL-SALAMAH GIRLS' SCHOOL FOR BASIC AND SEC ONDARY EDUCATION.C2 & C3

Math

Grade 5 ADV

Term 3

FRQ

الأسئلة المقالية - FRQ				
	1	Represent Division of Unit Fractions by Non-Zero Whole Numbers Divide Unit Fractions by Non-Zero Whole Numbers	3 - 10 9 - 12	147 - 148 151 - 152
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Page 147-148

Keep-Change-flip

3. $\frac{1}{8} \div \frac{3}{1} =$ _____

$\frac{1}{8} \times \frac{1}{3} = \frac{1}{24}$

4. $\frac{1}{4} \div \frac{2}{1} =$ _____

$\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$

5. $\frac{1}{5} \div \frac{5}{1} =$ $\frac{1}{5} \times \frac{1}{5}$

$= \frac{1}{25}$

6. $\frac{1}{3} \div 2 =$ _____

$\frac{1}{3} \times \frac{1}{2} = \frac{1}{6}$

7. Juanita shares the mixed nuts equally among herself and 3 friends. What fraction of a pound of nuts does each person receive?

$\frac{1}{4} \div \frac{4}{1} = \frac{1}{4} \times \frac{1}{4}$

$= \frac{1}{16}$ lb

Page 147-148

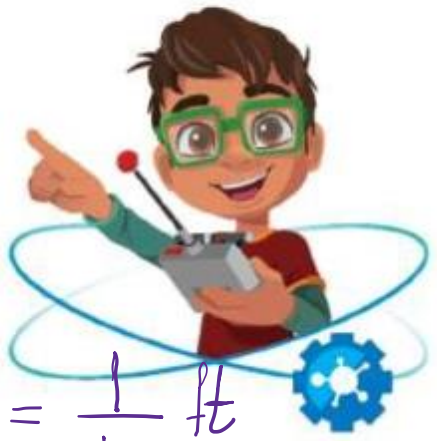
8. Raymond has $\frac{1}{3}$ gallon of water. He shares the water equally among his 3 hamsters. How much water will each hamster get?

$\frac{1}{3} \div \frac{3}{1} = \frac{1}{3} \times \frac{1}{3} = \frac{1}{9}$ gal

9. A baker divides $\frac{1}{2}$ pound of wheat flour equally for 3 loaves of bread. What fraction of a pound is in each loaf?

$\frac{1}{2} \div \frac{3}{1} = \frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$ lb

10. **STEM Connection** Antonio is trying to determine the speed of his robot before his next competition. He measures that the robot moves $\frac{1}{2}$ foot in 5 seconds. How far does his robot move each second?



$\frac{1}{2} \div \frac{5}{1} = \frac{1}{2} \times \frac{1}{5} = \frac{1}{10}$ ft

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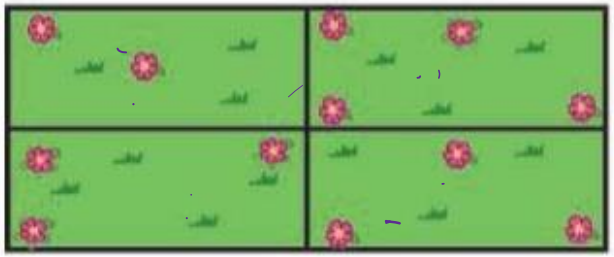
9. A garden has an area of $\frac{1}{10}$ acre. What fraction of an acre is each of the 4 sections?



$$\frac{1}{10} \div \frac{4}{1} = \frac{1}{10} \times \frac{1}{4}$$

$$= \frac{1}{40} \text{ acre}$$

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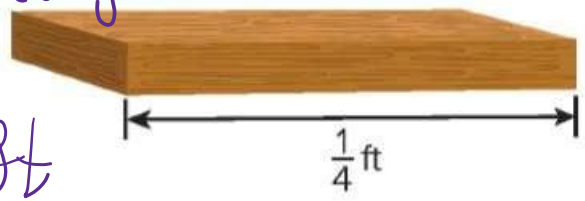
10. Error Analysis Peter buys $\frac{1}{4}$ pound of ham. Peter says that if he makes 2 ham sandwiches, each will have $\frac{1}{2}$ pound of ham. Is Peter correct? Explain why or why not.

$\frac{1}{4} \div \frac{2}{1} = \frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$

He is not correct He did not divide correctly.

11. Theo cuts this board into 4 equal sections. What is the length of each section?



$\frac{1}{4} \div \frac{4}{1} = \frac{1}{4} \times \frac{1}{4} = \frac{1}{16}$ ft

12. Sasha spends $\frac{1}{2}$ of each school day in math class, science class, and history class. If the time spent in each class is the same, what fraction of the school day does Sasha spend in math class?

$\frac{1}{2} \div \frac{3}{1} = \frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$

Page 177-178

6. Robin is selling lemonade. She makes 3 liters of lemonade and sells glasses of 250 milliliters of lemonade each. In the first hour, she sells 6 glasses of lemonade. How many liters does she have left?

1) $250 \times 6 = 1500$
2) $1500 \div 1000 = 1.5$
3) $3 - 1.5 = 1.5$

7. Brian is walking to his friend's house that is 2.6 kilometers away. He stops when he is $\frac{7}{8}$ of the way there. How many meters does he still have to walk?

1) $2.6 \times 1000 = 2600\ m$
2) $\frac{7}{8} \times 2600$
$= 325 \times 7 = 2275$
3) $2600 - 2275 = 325\ m$

8. Nell is aiming to drink the amount of water shown per day. By 3 p.m., she is $\frac{3}{4}$ of the way to her goal. How many more fluid ounces does she need to drink to reach her goal?

1) $8 \times 8 = 64$ fl oz
2) $\frac{3}{4} \times \frac{64}{1} = 48$ fl oz
3) $64 - 48 = 16$ fl oz

Page 177-178

9. Tyler wants to send his cousin 5 books that are each 1,500 grams. He has a box that can hold up to 6 kilograms. Will Tyler be able to use the box he has? Explain.

1) $1500\text{ g} \div 1000 = 1.5\text{ kg}$

2) $1.5 \times 5 = 7.5\text{ kg}$

7.5 is greater than 6 kg so Tyler will not be able to use the box

10. Gina is growing a houseplant. When she measures it at the beginning of the month, it is 3 feet tall. When she measures it at the end of the month, it is $1\frac{1}{4}$ the size it was at the beginning of the month. How many inches did the houseplant grow?

1) $3 \times 12 = 36$ in

2) $1\frac{1}{4} \times 36 = \frac{5}{4} \times \cancel{36}^{9} = 45$

3) $45 - 36$

$= 9$ inches.

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Learn

Aliyah is at the 30th floor of a building. While waiting for the elevator, she collected the data shown in the table.

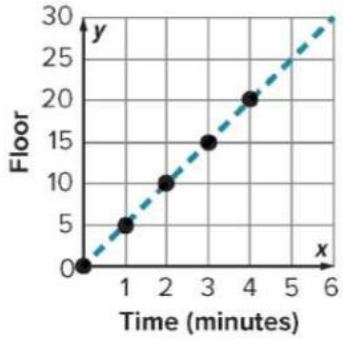
Time (min)	Floor
0	0
1	5
2	10
3	15
4	20

How many minutes will it take the elevator to reach Aliyah's floor?

You can write the times and corresponding location of the elevator as ordered pairs.

Ordered Pair
(0, 0)
(1, 5)
(2, 10)
(3, 15)
(4, 20)

Then, plot the ordered pairs on the coordinate plane. Draw a line to show the pattern.



It will take 6 minutes for the elevator to reach Aliyah's floor.

You can interpret points on the coordinate plane.

Math is... Modeling

How does plotting points on the coordinate plane help you understand data?

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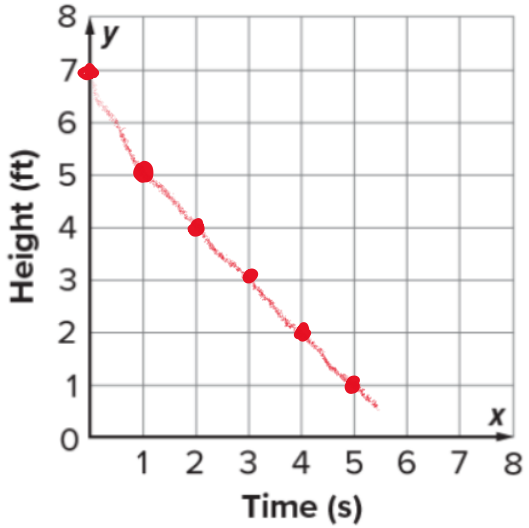
1. The table shows the time it took for a fifth-grade student to go down the slide at a park and their height from the ground while going down the slide. Write the time and corresponding heights as ordered pairs.

Time (seconds)	Height (feet)
0	7
1	5
2	4
3	3
4	2
5	1

(0,7), (1,5), (2,4), (3,3)
(4,2), (5,1)

2. Plot and connect the points on a coordinate plane.



3. How tall is the slide?

7 ft

4. How long does it take for the student to go down the slide?

5 sec

5. What happens between 0 seconds and 1 second?

The student goes down 2 feet.

6. Where is the student after 5 seconds?

1 foot off the ground

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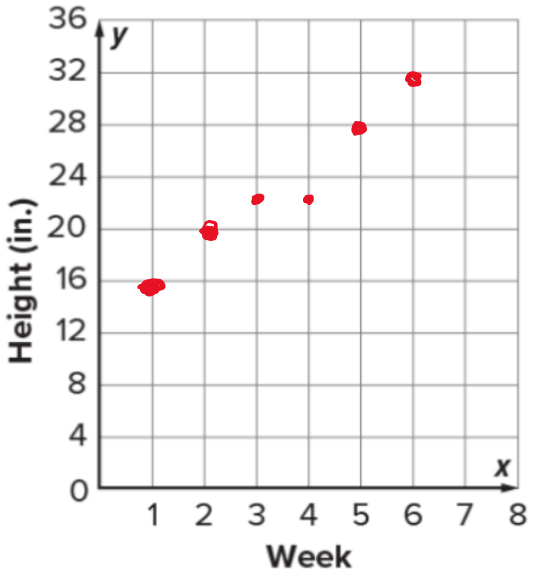
7. **STEM Connection** Poppy measures the height of a plant over several weeks and records it in the table. The plant is 14 inches tall before she begins recording. Write the weeks and corresponding heights as ordered pairs.

Week	Height (inches)
1	16
2	20
3	22
4	22
5	28
6	32

(1, 16), (2, 20), (3, 22)
(4, 22), (5, 28), (6, 32)

8. Plot and connect the points on the coordinate plane.



9. How much does the plant grow between Weeks 1 and 2?

20 − 16 = 4 in

10. What happens between Weeks 3 and 4?

The plant remains the same height.

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What is the solution? Show your work.

5. $3 + 7 \times 2 =$ 17

$3 + 14$

6. $(3 + 7) \times 2 =$ 20

10×2

7. $56 \div 8 - 3 + 2 \times 5 =$ 14

$= 7 - 3 + 10$

$= 4 + 10$

$= 14$

8. $56 \div (8 - 3 + 2) \times 5 =$ 40

$= 56 \div 7 \times 5$

$= 8 \times 5$

$= 40$

9. $2\frac{3}{8} + 1\frac{1}{4} \times 6\frac{3}{4} - \frac{1}{2} =$ $35\frac{5}{8}$

$\frac{19}{8} + \frac{5}{4} \times \frac{27}{4} - \frac{1}{2}$

$\frac{19}{8} + \frac{135}{4 \times 2} - \frac{1 \times 4}{2 \times 4}$

$\frac{19}{8} + \frac{270}{8} - \frac{4}{8} = \frac{285}{8}$

$= 35\frac{5}{8}$

10. $5.8 \times (6.75 + 3.25) \div 2 =$ 29

$= 5.8 \times 10 \div 2$

$= 58 \div 2$

$= 29$

Describe a relationship between corresponding terms in Patterns A and B.

1. Pattern A starts at 0 and adds 4 to each term.
   Pattern B starts at 0 and adds 2 to each term.

   The terms in Pattern A are 2 times as much as the corresponding terms in Pattern B.

2. Pattern A starts at 0 and adds 3 to each term.
   Pattern B starts at 0 and adds 9 to each term.

   The terms in Pattern B are 3 times as much as the corresponding terms in Pattern A.

3. Pattern A starts at 0 and adds 20 to each term.
   Pattern B starts at 0 and adds 5 to each term.

   The terms in Pattern A are 4 times as much as the terms in Pattern B.

Use the table to answer Exercises 4–6.

4. Fill in the unknown terms in the table.

Pattern A +2	Pattern B +8
0	0
2	8
4	16
6	24
8	32

5. What is a relationship between the corresponding terms in Patterns A and B?

   Multiply the term in pattern A by 4 and the product is the term in Pattern B.

6. If a term in Pattern A is 20, what will be its corresponding term in Pattern B?

   $20 \times 4 = 80$

7. Pattern A starts at 0 and adds 1 to each term. Pattern B starts at 0 and adds 6 to each term. If 5 is a term in Pattern A, what is its corresponding term in Pattern B? $5 \times 6 = 30$

8. Pattern A starts at 0 and adds 4 to each term. Pattern B starts at 0 and adds 8 to each term. If 24 is a term in Pattern A, what is its corresponding term in Pattern B? $24 \times 2 = 48$

9. Pattern A starts at 0 and adds 3 to each term. Pattern B starts at 0 and adds 12 to each term. If 72 is a term in Pattern B, what is its corresponding term in Pattern A? $72 \div 4 = 18$

10. **STEM Connection** Saffron is baking bread. She wrote these numerical patterns to record the amount of water and flour needed.
Water (in cups): 3, 4, 5, 6, ...
Flour (in cups): 6, 8, 10, 12, ...
How many cups of water is needed when using 48 cups of flour? $48 \div 2 = 24$ cups of water.

MCQ

MCQ - ورقة الموضوعية

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On My Own

MATH REPLAY | GO ONLINE

Name _____

1. Marie equally divides 6 bags of soil into these flowerpots. How many bags of soil are in each pot?

Complete the equation.

2. 5 ÷ 9 = $\frac{5}{9}$

3. 13 ÷ 4 = $\frac{13}{4}$

4. 3 ÷ 8 = $\frac{3}{8}$

5. 7 ÷ 9 = $\frac{7}{9}$

6. $\frac{1}{3}$ × 7 = 7 ÷ 3

7. $\frac{1}{4}$ × 5 = 5 ÷ 4

8. A farmer pours 3 pounds of chicken feed equally into 4 bags. What is the weight of the chicken feed in each bag?

   A. $\frac{3}{4}$ pound
   B. $1\frac{3}{4}$ pounds
   C. $\frac{4}{3}$ pounds
   D. $1\frac{1}{4}$ pounds

9. An artist divides 4 pounds of clay equally into 3 containers. What is the weight of the clay in each container? Circle all correct answers.

   A. $1\frac{1}{4}$ pounds
   B. $1\frac{1}{3}$ pounds
   C. $\frac{3}{4}$ pound
   D. $\frac{4}{3}$ pounds

Solve each problem. If there is a remainder, decide how to represent and interpret the remainder.

1. Grace walked the number of miles shown over the course of 7 days. She walked the same number of miles each day. How many miles did she walk each day?

$20 \div 7 = \frac{20}{7}$

$= 2\frac{6}{7}$

2. There were 210 balloons at a fair. Each of the 50 children that attended the fair got the same number of balloons. How many balloons did each child get?

210 ÷ 5 = 4 balloons, there were 10 left over.

3. Dawn made 50 bracelets. She gave each of her 12 friends the same number of bracelets. How many bracelets did Dawn give to each of her friends?

50 ÷ 12 = 4 bracelets; 2 were left over

Would you write the quotient for the problem with a remainder or as a mixed number?

4. Equal amounts of juice are poured into different glasses.
   - A. remainder
   - B. mixed number

5. The same number of books must be put on each shelf.
   - A. remainder
   - B. mixed number

6. A dog is fed the same amount of food every day.
   - A. remainder
   - B. mixed number

7. Someone gives out the same number of flowers to each of 5 friends.
   - A. remainder
   - B. mixed number

Keep-Change-flip

1. $6 \div \frac{1}{3} =$ 18

2. $9 \div \frac{1}{4} =$ 36

3. $7 \div \frac{1}{8} =$ 56

4. $5 \div \frac{1}{5} =$ 25

5. $4 \div \frac{1}{2} =$ 8

6. $2 \div \frac{1}{9} =$ 18

7. $4 \div \frac{1}{6} =$ 24

8. $3 \div \frac{1}{10} =$ 30

9. Jamal cuts the board into pieces that are each $\frac{1}{2}$ foot long. How many pieces does he have?

7 ft

14 pieces

$\frac{7}{1} \div \frac{1}{2} = \frac{7}{1} \times \frac{2}{1} = \frac{14}{1} = 14$

Keep-Change-flip

What is the quotient?

1. $3 \div \frac{1}{5} =$ 15

2. $6 \div \frac{1}{3} =$ 18

3. $4 \div \frac{1}{4} =$ 16

4. $7 \div \frac{1}{2} =$ 14

5. $12 \div \frac{1}{3} =$ 36

6. $9 \div \frac{1}{5} =$ 45

7. $6 \div \frac{1}{6} =$ 36

8. $10 \div \frac{1}{10} =$ 100

9. $8 \div \frac{1}{7} =$ 56

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Which operation will you use for the conversion? Explain your reasoning.

1. cups to fluid ounces
   multiplication; finding more of a smaller unit

2. hours to days
   division; finding fewer of a larger unit

Complete the conversion.

3. 36 in. = 3 ft

4. 2 T = 4,000 lb

5. 16 pt = 2 gal

6. 3 yr = 36 mo

7. 48 oz = 3 lb

8. 4 hr = 240 min

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9. A basketball court is 84 feet long. How does 84 feet compare to 30 yards? Explain how you know.

84 feet is less than 30 yards. Sample answer: 30 × 3 = 90, so 30 yards is 90 feet, and 84 is less than 90.

10. James needs this much ribbon for an art project. How many inches of ribbon does he need?

$\frac{2}{3}$ ft

$\frac{2}{3} \times \frac{12}{1} = 8$ in

11. During a reading contest, Mike read for a total of 120 hours. How many days is equal to 120 hours?

120 ÷ 24 = 5 days

Which operation should you use for the conversion? Explain your answer.

1. milligrams to grams
   division; Sample answer: finding fewer of a larger unit

2. meters to centimeters
   multiplication; Sample answer: finding more of a smaller unit

Complete the conversion.

3. 3 L = 3,000 mL

4. 100 mL = 0.1 L

5. 500 kg = 500,000 g

6. 6 km = 6,000 m

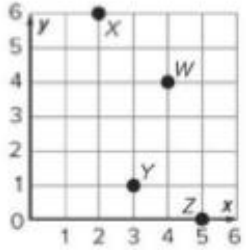
7. 70 mg = 0.07 g

8. 800 kL = 800,000 L

Use the coordinate plane to answer exercises 1–7.

1. What ordered pair describes point *W*?

   (4, 4)



2. What ordered pair describes point *X*?

   (2, 6)

3. What ordered pair describes point *Y*?

   (3, 1)

4. What ordered pair describes point *Z*?

   (5, 0)

5. What ordered pair describes the origin?

   (0, 0)

6. How did you find the *x*-coordinate for each ordered pair?

   Sample answer: I drew a line from the point to where it intersects with the *x*-axis and found the *x*-coordinate.

7. How did you find the *y*-coordinate for each ordered pair?

   Sample answer: I drew a line from the point to where it intersects with the *y*-axis and found the *y*-coordinate.

Learn

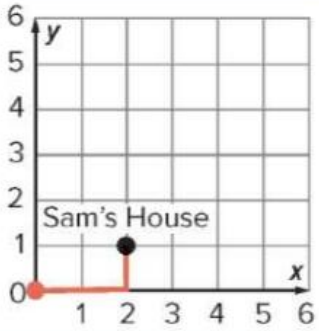
How can you determine the location of Sam's House and School on a coordinate plane?

Place	Ordered Pair
Sam's House	(2, 1)
School	(5, 5)
Park	(2, 5)
Jeremy's House	(5, 1)

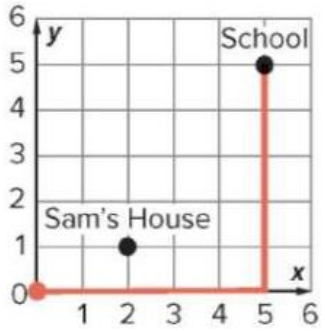
The *x*-coordinate for Sam's House is 2. Start at the origin and go right 2 units on the *x*-axis.

The *y*-coordinate for Sam's House is 1; go up 1 unit.

Draw the point at (2, 1) and label it "Sam's House."



You can follow the same process to plot the point (5, 5) for School.



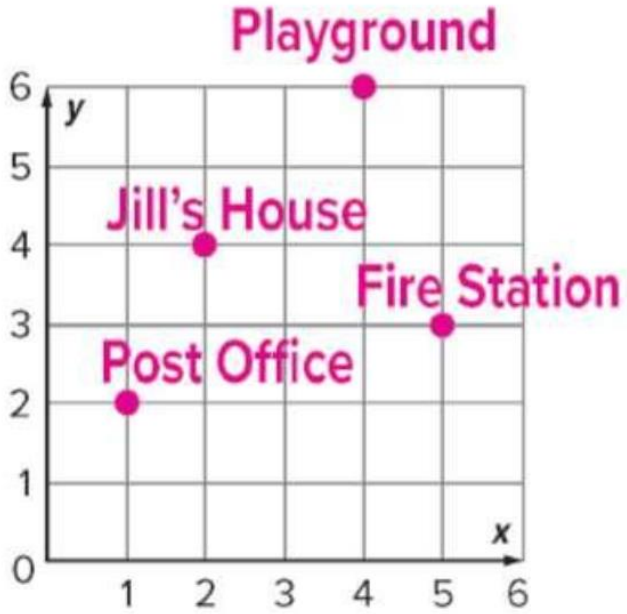
Math is... Choosing Tools

How many units right and up do you go to get from Sam's House to School?

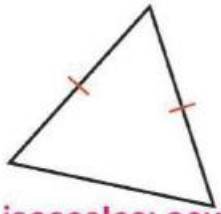
Plot and label the point for each place shown in the table.

Place	Ordered Pair
Playground	(4, 6)
Post Office	(1, 2)
Fire Station	(5, 3)
Jill's House	(2, 4)

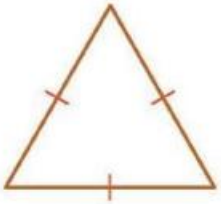
1. Playground
2. Post Office
3. Fire Station
4. Jill's House



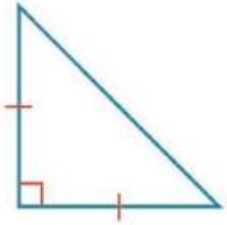
Classify each triangle by using their properties.

1. 

isosceles; acute

2. 

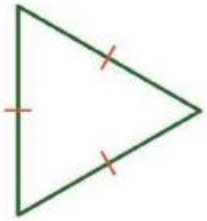
equilateral or isosceles; acute

3. 

isosceles; right

4. 

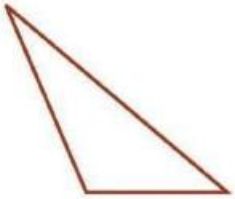
scalene; obtuse

5. 

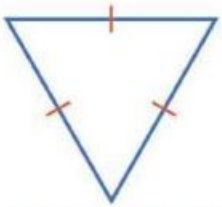
equilateral; acute

6. 

isosceles; acute

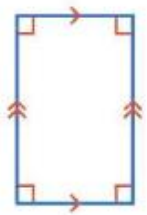
7. 

scalene; obtuse

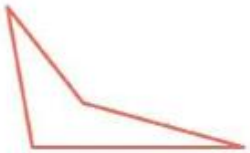
8. 

equilateral or isosceles; acute

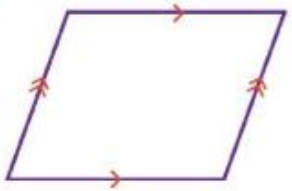
Classify each figure by using their properties.

1. 

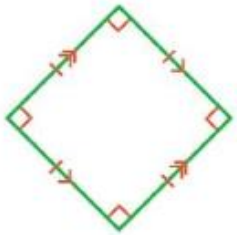
rectangle

2. 

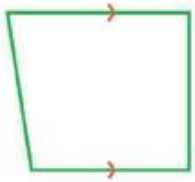
quadrilateral

3. 

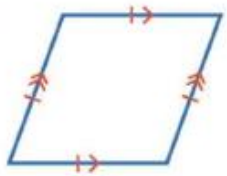
parallelogram

4. 

square

5. 

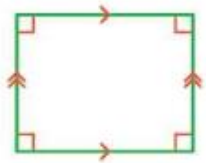
trapezoid

6. 

rhombus

7. 

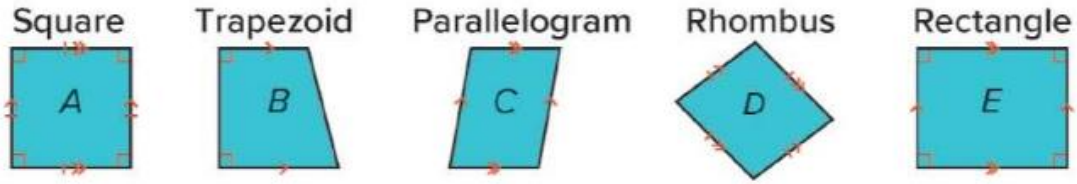
quadrilateral

8. 

rectangle

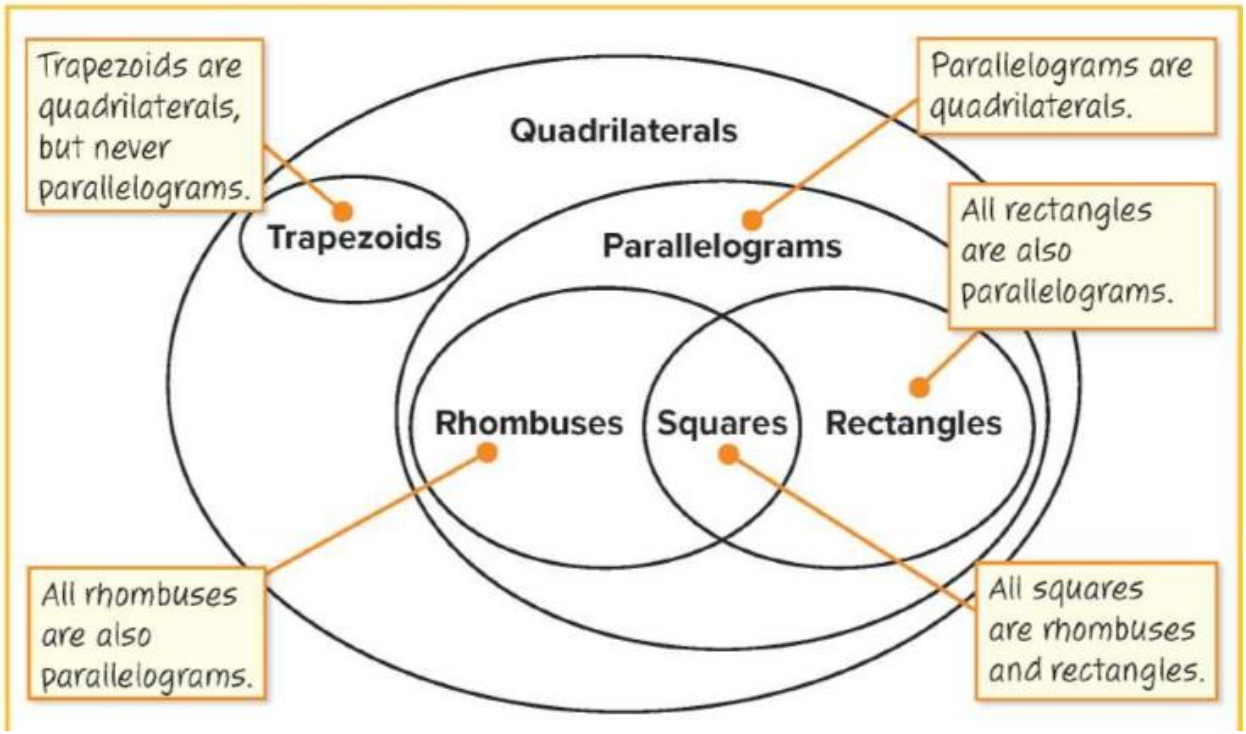
Learn

How can you represent the different categories and subcategories of quadrilaterals?



Quadrilaterals can be classified into categories and subcategories based on their shared properties.

You can use a **Venn diagram** to show a hierarchy.



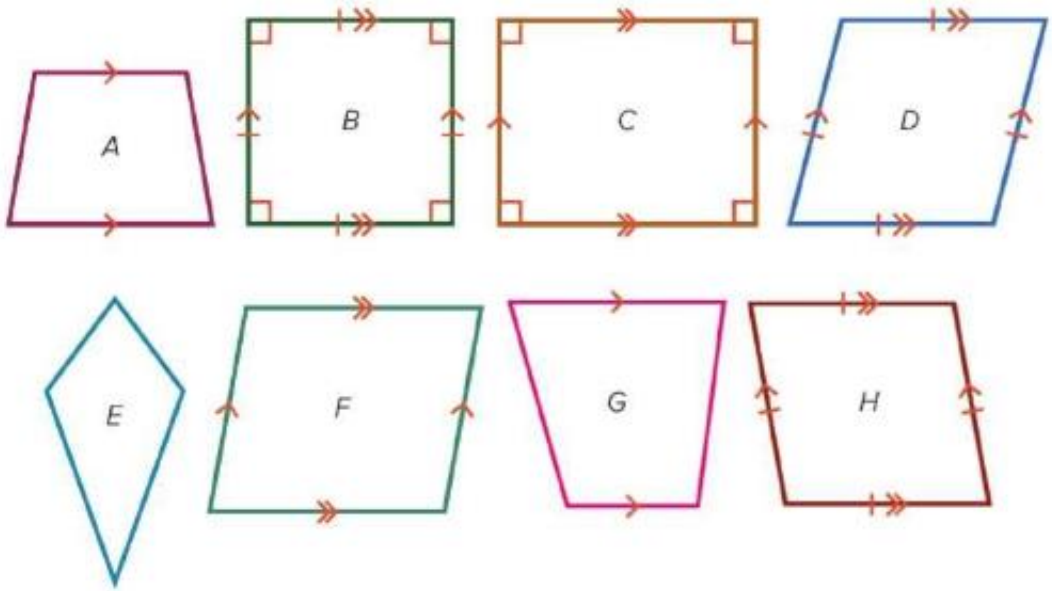
Work Together

Are the following statements *always true*, *sometimes true*, or *never true*?

A trapezoid is a parallelogram. **never true**

A square is a rhombus. **always true**

Use the figures for Exercises 1–8. Identify the figures that could be classified into each subcategory.



1. quadrilaterals

Figures A, B, C, D, E, F, G, H

2. trapezoids

Figures A, G

3. parallelograms

Figures B, C, D, F, H

4. rectangles

Figures B, C

5. rhombuses

Figures B, D, H

6. squares

Figure B

9. **STEM Connection** Hanna is helping cut some sheets of metal. She needs to cut them so that they have 4 sides with two pairs of parallel sides. Some need to have 4 right angles and some do not. How can she classify the sheets of metal?

The sheets with 4 right angles can be classified as rectangles and the sheets without right angles can be classified as parallelograms.

10. Which quadrilaterals always have 4 right angles?

squares and rectangles

11. Which quadrilaterals always have exactly 1 pair of parallel sides?

trapezoids

12. Which quadrilaterals always have 4 sides of equal length?

rhombuses and squares

What numerical expression represents the description?

1. Divide 40 by 5. Then, subtract 2.

   $(40 \div 5) - 2$

2. Multiply 4 and 8. Then, add 7.

   $(4 \times 8) + 7$

3. Add $2\frac{1}{2}$ and $4\frac{2}{3}$. Then, subtract $\frac{1}{8}$.

   $(2\frac{1}{2} + 4\frac{2}{3}) - \frac{1}{8}$

4. Add 4.8 and 5.6. Then, subtract the sum from 16.9.

   $16.9 - (4.8 + 5.6)$

5. Subtract $4\frac{1}{4}$ from $10\frac{2}{5}$. Then, divide by 3.

   $(10\frac{2}{5} - 4\frac{1}{4}) \div 3$

6. Subtract 8 from 32. Then, divide 48 by the difference.

   $48 \div (32 - 8)$

7. Add 6.7 and 8.25. Then, multiply by 11.2.

   $(6.7 + 8.25) \times 11.2$

8. Divide 24 by 6. Multiply 5 and 7. Then, add the quotient and the product.

   $(24 \div 6) + (5 \times 7)$

Which operation will you perform first to evaluate the expression? Explain your reasoning.

1. $25 - 5 \times (4 - 3)$

   subtraction

2. $37 + 8 \div 2 - 5$

   division

3. $\frac{3}{4} \times (2\frac{1}{2} + 6\frac{1}{4})$

   addition

4. $100 \times 4 + 6 - 10$

   multiplication

Use the information given for Exercises 1–8.

Quentin and Tyler are running laps on the school track. Each time they complete a lap, they do jumping jacks.

They both do 0 jumping jacks after the first lap.

Each lap, Quentin adds 1 jumping jack to the number of jumping jacks he did after the lap before.

Each lap, Tyler adds 4 jumping jacks to the number of jumping jacks he did after the lap before.

1. What is the rule for Quentin's numerical pattern?

   add 1

2. What is the rule for Tyler's numerical pattern?

   add 4

3. Write the first 5 terms of Quentin's numerical pattern.

   0, 1, 2, 3, 4

4. Write the first 5 terms of Tyler's numerical pattern.

   0, 4, 8, 12, 16

5. When Quentin does 4 jumping jacks after a lap, how many jumping jacks will Tyler do after that same lap?

   16 jumping jacks

6. What is a relationship between corresponding terms in the two numerical patterns?

   Multiply the number in Quentin's pattern by 4. The product is the number in Tyler's pattern.

7. How many jumping jacks will Tyler do after the lap when Quentin does 8 jumping jacks?

   32 jumping jacks

8. How many jumping jacks will Quentin do after the lap when Tyler does 40 jumping jacks?

   10 jumping jacks

Math

Thank you

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